



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,454	07/17/2000	Walter G. Branco	CY-0015	7824

7590  
Bradley T Sako  
3954 Loch Lomand Way  
Livermore, CA 94550

12/17/2003

EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/617,454

Applicant(s)

BRANCO ET AL.

Examiner

Alexander Markoff

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6,7,9-13,15,16,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,7,9-13,15,16,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/1/03 has been entered.

### ***Response to Amendment***

2. Applicants filed an amendment, which reinstates previously cancelled claim 17. This is not proper.

This deficiency was previously indicated by the examiner in the advisory action (paper 11).

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 6, 7, 9-13, 15, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Autryve et al in view of the state of the prior art admitted by the applicants in the specification, Laube (5,660,640), Lu et al (6,352,081) and Mintz (5,391,275).

Van Autryve et al teach a method for cleaning.

The method comprises plasma cleaning with gases comprising oxygen generated by RF with the claimed power.

The method also comprises periodic cleaning with acetone.

As to the required selectivity:

First, Van Autryve et al teach application of the claimed plasma to the claimed materials for removing the same contamination as claimed. It is obvious that the selectivity would be the same.

Second, it is noted that the claims recite only one low limitation for the selectivity and do not exclude selectivity being 2:100 or even 1000:100. It means that even the process wherein the part of the chamber is preferentially etched by plasma compare to the contaminants is inside of the claims.

Thus, Van Autryve et al teach the claimed method except for specific recitation of placing the chamber parts into the solvent and for some claims except for the recitation of conventional steps of water rinsing, baking etc. and the use of ultrasonic cleaning.

As to the placing the parts into the solvents:

Van Autryve does not specifically describe the specifics of the wet cleaning. Thereby it is not clear whether or not the parts are placed in the solvents.

The applicants admitted in the specification (pages 2 and 3) that application solvents to clean parts by placing them in the solvent; water rinsing and backing are well-known, conventional steps of the cleaning chamber parts.

Lu et al Laube and Mintz are also show that what is meant in the industry, as wet cleaning conventionally comprises placing the parts into the solvent. These

documents also evidence that other claimed steps such as baking, water rinsing, ultrasonic cleaning, etc. were conventional in the art of cleaning chambers. See at least column 9, lines 21-38 of Lu et al, Fig. 1 and the related description of Laube, and abstract and column 4 of Mintz.

It would have been obvious to an ordinary artisan at the time the invention was made to perform the wet cleaning in Van Autryve by the way conventional for the wet cleaning in the industry in order to achieve an appropriate cleaning. It would also have been obvious to an ordinary artisan at the time the invention was made to include the conventional steps of wet cleaning, such as water rinsing, baking, ultrasonic cleaning, etc. in Van Autryve with reasonable expectation of adequate results in order to obtain a cleaned chamber.

As to a requirement to conduct a solvent cleaning for the specific time:

Cleaning time is a result effective variable. It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum cleaning time by routine experimentation.

### ***Response to Arguments***

5. Applicant's arguments filed 8/1/03 have been fully considered but they are not persuasive.

It is believed that most of the applicant's arguments are moot in view of the new grounds for rejection. The teachings of three documents were added to clarify the rejection, to show what is understood in the industry under wet cleaning and to support the conclusion of conventionality of ultrasonic cleaning in cleaning of chamber parts.

The examiner would like to comment on the applicant's arguments regarding the time limitation.

The applicants argue that Van Autryve et al teach away from founding the optimal cleaning time by routine experimentation. The applicants cite column 2, lines 39-51 of the document to support their position.

This is not persuasive because the cited part and column 11, lines 5-28 of Van Autryve et al do not propose to limit the needed time for wet cleaning or some how alter the wet cleaning. The document teach the way to make the wet cleaning less frequent, but do not teach to conduct wet cleaning for the time insufficient for cleaning. The document recommends the combination of plasma cleaning with wet cleaning as a way to reduce the downtime of the equipment, the document does not recommend to shorten or some how alter the wet cleaning when the wet cleaning is needed.

### ***Conclusion***

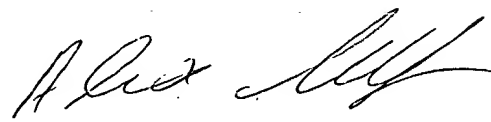
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P Gulakowski can be reached on 703-308-4333.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703--308-0651.

**ALEXANDER MARKOFF**  
PRIMARY EXAMINER

Alexander Markoff

  
AM 1746